

Miscellaneous Notes on the East-Asiatic Uredinales with Special Reference to the Japanese Species (I)

By

Naohide HIRATSUKA

平塚直秀：東亞锈菌類雜考（其一）

1. *Zaghouania Phillyreæ* PATOUILlard in Bull. Soc. Myc. France, XVII, p. 187 & pl. VII, figs. 1~13, 1901. (HARA, Nippon-Gaikin-gaku, p. 263 & figs. 151 & 152, 1936; HIRATSUKA, f. in Agric. & Hortic. IV, p. 1027~1033, 1929; Jour. Jap. Bot. X, p. 6 & text-figs. 2 & 3, 1934; XI, p. 708, 1935; IDE in Transact. Nat. Hist. Soc. Kagoshima Imp. Coll. Agric. & Forestr. no. 13, p. 46~48 & text-figs. 1~7, 1934).

Syn. *Aecidium sizuokaensis* HARA in SHIRAI & HARA, List, p. 11, 1927 (*nomen nudum*); Jikken-Jyumoku-byôgai-hen, p. 307, 1927 (*nomen semi-nudum*).

Zaghouania sizuokaensis HARA in sched.

Hab. On *Osmanthus fragrans* LOUR. (*Mokusei*) (*cult.*). *Kiushû*: Prov. Satsuma, Yoshino-mura (April 9, 1930, S. KAWAGOE); Kagoshima (April 17, 1934, T. NAITÔ; March 30 & May 21, 1934, K. IDE).

On *Osmanthus ilicifolius* STANDISH (*Hiiragi*) (*cult.*). *Honshû*: Prov. Têtômi, Shinohara (June, 1922, K. HARA); Horinouchi (June, 1924, K. HARA); Sekishi-mura (June, 1928, K. HARA). Prov. Idzu: Shimoômi-mura (May 1, 1929 & May 3, 1930, K. HARA). *Kiushû*: Prov. Satsuma, Kagoshima (May 21, 1934, K. IDE).

On *Osmanthus insularis* KOIDZ. (*Shima-mokusei*). *Bonin Is.*: Chichijima, Ômura (April 5, 1936, Y. JÔTANI).

K. IDE⁽¹⁾ made inoculations with the teleutospores of this fungus on *Osmanthus fragrans* on *Osmanthus ilicifolius*, and secured positive results. *Osmanthus insularis* is a new host plant for the present species.

⁽¹⁾ Transact. Nat. Hist. Soc. Kagoshima Imp. Coll. Agric. & Forestr. no. 13, p. 46, 1934.

2. **Coleopucciniella¹⁾ simplex** (DIET.) HARA, Nippon-Gaikin-gaku, p. 262 & fig. 150, 1936.

Syn. *Coleopuccinia simplex* DIETEL in Ann. Myc. VII, p. 355, 1909; SACCARDO, Syll. Fung. XXI, p. 598; SYDOW, Monogr. Ured. III, p. 544 & pl. XXV, fig. 176. (DIETEL in Ann. Myc. VIII, p. 313, 1910; HIRATSUKA, f. in Jour. Jap. Bot. XI, p. 708, 1935; HIRATSUKA, f. & HASHIOKA in Bot. Mag. Tokyo, XLIX, p. 523, 1935; HIRATSUKA, f. & YOSHINAGA in Mem. Tottori Agric. Coll. III, p. 267, 1935; IDE in Jour. Jap. Bot. XI, p. 336, fig. 6, 1935; YOSHINAGA & HIRATSUKA, f. in Bot. Mag. Tokyo, XLIV, p. 656, 1930).

Hab. On *Eriobotrya japonica* LINDL. (*Biwa*) (cult.). *Honshū*: Prov. Tango, Shisho-mura (July 28, 1933, I. NAGATOMO). *Shikoku*: Prov. Tosa, Ônogō-mura (May 1, 1927, T. YOSHINAGA); Kōchi-hi (Jan., 1909, T. YOSHINAGA, type!). *Prov. Awa*, Sanakawachi-mura (Nov. 24, 1930, S. NAKAGAWA). *Prov. Iyo*; Kisagata-mura (June 10, 1931, K. KIMURA). *Kiushū*: *Prov. Satsuma*, Toso near Kagoshima (April 17, 1934, K. IDE). *Formosa*: *Prov. Taichū*, Taboku (Sept. 25, 1928, S. SUZUKI).

3. **Coleopucciniella Idei** HIRATSUKA, f. nov. spec.

Syn. *Coleopuccinia Idei* HIRATSUKA, f. in sched.

Coleopuccinia sp. (IDE in Jour. Jap. Bot. XI, p. 334 & text-figs. 1~5, 1935).

Soris teleutosporiferis hypophyllis, maculis aurantiacis vel purpureis insidentibus, sparsis vel aggregatis, mox nudis, rotundatis, minutis, 0.2~0.8 mm diam., aurantiacis, ceraceo-gelatinosis; teleutosporis subglobosis, ovatis, oblongis vel fusiformibus, sēpe angulatis, 17~70×10~24 μ ; episporio hyalino, tenui.

Hab. On *Rhaphiolepis umbellata* MAK. (*Hama-mokukoku*, *Sharinbai*). *Kiushū*: *Prov. Satsuma*; Kagoshima (June 21, 1934, K. IDE); Kasasuna-mura (March 19 & 20, 1933; May 20, 1934, K. IDE); Shimo-Koshiki-mura (April 2, 1933, K. IDE). *Prov. Ôsumi*; Yakushima (Dec. 31, 1933, K. IDE).

The present species is closely related to *Coleopucciniella simplex*, from

¹⁾ *Coleopucciniella* HARA, Nippon-gaikin-gaku, p. 262, 1936 (*nomen seminudum*). Omnia ut in genere *Coleopuccinia*, sed teleutosporae tantum unicellulares.

which it distinctly differs by the thinner walled teleutospores.

4. **Chrysomyxa Tsugæ** HIRATSUKA, f. nov. spec.

Soris teleutosporiferis ramicolis, elongatis, majoribus, 1~9mm longis, 0.4~0.9 mm latis, usque 0.6 mm altis, aurantiacis usque rufo-brunneis; teleutosporis in catenas 150~290 μ longas conjunctis, oblongis vel quadraticis, levibus, hyalinis, 18~42 \times 8~14 μ , episporio ca. 1 μ crasso.

Hab. On *Tsuga Sieboldii* CARR. (*Tsuga*). *Honshû* : Prov. Kii, Shichikawamura (June 16, 1932, Y. NIJIMA, comm. Mr. S. KAMEI, type!).

The present species is very characteristic and unlike any other so far described. It differs from the other species of this genus by much longer teleutospore-chains and by producing its teleutospores on the twigs.

5. **Melampsora Apocyni** TRANZSCHEL in Script. Bot. Hort. Univ. Imp. Petropol. XII, p. 237, 1896.

Hab. On *Apocynum venetum* L. (*Bashikurumon*). *China* : Tang-Shan near Nanking (Sept. 15, 1920, DORSETT & MORSE, comm. Dr. J. C. ARTHUR).

The present species is a new addition to the mycological flora of China.

6. **Melampsora Yoshinagai** HENNINGS in *Hedwigia* XLII, p. (108), 1903; SACCARDO, Syll. Fung. XVII, p. 264; SYDOW, Monogr. Ured. III, p. 391 & pl. XIV, fig. 139. (DIETEL in Ann. Myc. VI, p. 227, 1908; HIRATSUKA, f. in Jour. Soc. Agric. & Forestr. Sapporo, XXI, p. 326, 1930 : Jour. Jap. Bot. X, p. 617, 1934; XI, p. 280, 1935; HIRATSUKA, f. & HASHIOKA in Bot. Mag. Tokyo, LI, p. 42, 1937; HIRATSUKA, f. & YOSHINAGA in Mem. Tottori Agric. Coll. III, p. 264, 1935; YOSHINAGA in Bot. Mag. Tokyo, XVIII, p. (32), 1904; XXV, p. (489), 1911; YOSHINAGA & HIRATSUKA, f. in Bot. Mag. Tokyo, XLIV, p. 651, 1930).

Syn. *Melampsora Wikstroemiae* HENNINGS (FUJIKURO in Transact. Nat. Hist. Soc. Formosa, no. 19, p. 10 (extr.), 1914; SAWADA, Descript. Cat, Formosan Fung. IV, p. 32, 1928).

Hab. On *Wikstroemia Gampi* MAXIM. (*Ko-gampi*). *Honshû* : Prov. Inaba, Inabayama near Tottori (Oct. 6 & Nov. 27, 1929, HIRATSUKA, f. & M. YOSHIDA; Sept. 21, 1930 & May 30, 1934, HIRATSUKA, f.). *Shikoku* : Prov.

Tosa, Mikadzuki-mura (Sept. 23, 1932, T. YOSHINAGA).

On *Wikstroemia gynopoda* MAXIM. (*Miyama-gampi*).⁽¹⁾ *Shikoku*: Prov. Tosa, Mt. Yokogura (Aug. 1902, T. YOSHINAGA, *type!*); Mt. Shiraga (Motoyama-machi) (Aug., 1907, T. YOSHINAGA).

On *Wikstroemia indica* C.A. MEY. (*Indo-gampi*). *Formosa*: Prov. Taihoku, Tansui (K. SAWADA); Mt. Kan-non (June 5, 1932, K. SAWADA); Shizangan (Oct. 27, 1921, S. SUZUKI); Fûkikaku (Oct. 6, 1935, Y. HASHIOKA).

On *Wikstroemia shikokiana* FRANCH. et SAV. (*Gampi*). *Honshû*: Prov. Idzu, Shûzenji (Nov. 3, 1933, HIRATSUKA, f.). Prov. Kaga, Yamanakamachi (Oct. 20, 1931, HIRATSUKA, f.). Prov. Tango Yoshidzu-mura (Oct. 17, 1931, HIRATSUKA, f.). Prov. Idzumo: Kijima-mura (Oct. 5, 1930, S. YAMASHITA). *Shikoku*: Prov. Tosa, Hada-mura (Oct., 1907, T. YOSHINAGA); Mitani-goe (Oct., 1907, T. YOSHINAGA). Prov. Sanuki, Gogô-mura (Dec. 26, 1934, T. YOSHINAGA).

In May 1934, the writer discovered the aecidial stage of this fungus on *Wikstroemia Gampi* which occurs at Inabayama near Tottori. The general characters of the aecidial stage are as follows:— Spermogonia amphigenous, mostly epiphyllous, solitary or grouped, punctiform, honey-yellow, then blackish, subcuticular, hemispherical, 80~180 μ across; spermatia broadly ellipsoidal, 2.8~4 μ across. Aecidia hypophyllous, round, minute, 0.15~0.5 mm across, early naked, subepidermal, orange-yellow in colour, paraphyses absent; aeciospores globose, subglobose or broadly ellipsoidal, 18~27 \times 15~24 μ ; episporae 2~2.7 μ thick, verrucose.

7. **Melampsora daphnicola** JOERSTAD in Skrift. utgitt av Det Norske Videns kaps-Akad. i Oslo, i. Mathem.-Naturv. Kl. (1933), no. 9, p. 55, 1934.

Syn. *Uredo daphnicola* DIETEL in Hedwigia XXXVII, p. 213, 1898.

Uredo Daphnes NAGAI et SHIMAMURA in Jour. Soc. Agric. & Forestr. Sapporo, XV, p. 85 & text-fig., 1933. (HIRATSUKA, f. in Jour. Jap. Bot. X, p. 7, 1934).

Hab. On *Daphne je:oenensis* MAXIM. (*Naniwazu*). *Kuriles*: Kunashiri, Mt.

⁽¹⁾ This host plant was erroneously recorded as *Wikstroemia japonica* in its original description.

Chacha-nupuri (M. NAGAI & M. SHIMAMURA).

8. *Coleosporium Xanthoxyli* DIETEL et SYDOW in DIETEL in *Hedwigia*, XXXVII, p. 217, 1898.

Syn. *Uredo asperata* BERKELEY et CURTIS in *Proc. Amer. Acad. Arts & Sci.* IV, p. 126, 1858.

Hab. On *Fagara boninensis* KOIDZUMI (*Akô-zanshô*). *Bonin Is.* : Haha-jima (April 7, 1936, Y. JÔTANI).

9. *Cerotelium Hashiokai* HIRATSUKA, f. nov. spec.

Soris uredosporiferis amphigenis, sparsis, minutis, aurantiacis vel rubiginosis; paraphysibus numerosis, periphæricis, clavatis, 27~55 μ longis, 10~15 μ latis, introrsum curvatis, membrana 3~6 μ crasso; uredosporis globosis, subglobosis vel ellipsoideis, echinulatis, pallide flavidis, 18~27 \times 14~18 μ ; episporio 1~2 μ crasso.

Soris teleutosporiferis amphigenis, plerumque epiphyllis, sparsis vel sæpius aggregatis, minutis, 0.2~0.5 mm diam., mox nudis, tandem subpulverulentis, brunneis; teleutosporis compluribus 5~9 in catenas 65~90 μ longas connexis, cubisis, 8~20 μ longis, 17~25 μ latis, levibus, pallide cinnamomeo-brunneis; episporio 2~3.8 μ crasso.

Hab. On *Ampelopsis cantoniensis* PLANCK. (*Taiwan-udokazura*). *Formosa* : Prov. Taichû, Gojyô (Dec. 29, 1932, Y. HASHIOKA, no. 218, *type*!); Rengechi (Nov. 3, 1932, Y. HASHIOKA).

The present species is distinctly distinguishable from *Cerotelium Vitis* (BUTL.), by its much broader teleutospores with much thicker episporie and others.

10. *Puccinia Polliniæ-imberbis* (S. ITÔ) HIRATSUKA, f. nov. comb.

Syn. *Uredo Polliniæ-imberbis* S. ITÔ in *Jour. Coll. Agric. Tohoku Imp. Univ.* III, p. 246 & pl. XII, fig. 11, 1909; SACCARDO, *Syll. Fung.* XXI, p. 808; SYDOW, *Monogr. Ured.* IV, p. 545.

Status uredosporiferis = *Uredo Polliniæ-imberbis* S. ITÔ.

Soris teleutosporiferis hypophyllis, sparsis, minutis, ellipsoideis, oblongis vel linearibus, pulvinatis, atris; teleutosporis ellipsoideis, utrinque rotun-

datis, apice vix leniter incrassatis (usque 5μ), medio plerumque leniter constrictis, levibus, castaneo-brunneis, $25\sim38\times16\sim23\mu$; pedicello persistenti, usque 48μ longo, pallide brunneolo.

Hab. On *Microstegium vimineum* A. CAMUS (*Pollinia imberbis* NEES var. *Willdenowiana* HACK.) (*Ashiboso*). *Formosa*: Prov. Taihoku, Taihoku (T. KAWAKAMI & E. SUZUKI, *type of Uredo Polliniæ-imberbis* S. ITÔ!).

On *Microstegium vimineum* A. CAMUS var. *imberbe* HONDA (*Ke-ashiboso*). *Formosa*: Prov. Taihoku, Sekitei (Aug. 17, 1933, Y. HASHIOKA); Sôzan (Oct. 22, 1933, Y. HASHIOKA); Mt. Kan-non (Dec. 25, 1933, Y. HASHIOKA); Chokutan (May 28, 1933, Y. HASHIOKA); Wantan (Dec. 4, 1932, Y. HASHIOKA); Shinten (Sept. 10, 1933, Y. HASHIOKA; Dec. 18, 1932, Y. HASHIOKA, *type*!). Prov. Taiehû, Rengechi (Nov. 3, 1932, Y. HASHIOKA).

11. *Puccinia Abei* HIRATSUKA, f. nov. spec.

Soris teleutosporiferis culmicolis, maximis, linearis, gregariis confluentibusque, usque 7em longis, mox nudis, pulvinatis, atrobrunneis; teleutosporis oblongis, oblongo-clavatis vel clavatis, rarius ellipsoideis, apice rotundatis vel conico-attenuatis, non incrassatis, medio plerumque leniter constrictis, basi rotundatis vel attenuatis, levibus, flavo-brunneis, $45\sim70\times20\sim30\mu$; episporio $2.5\sim3.5\mu$ crasso; pedicello hyalino vel subhyalino, persistenti filiformi, usque 270μ longo; mesosporis immixtis.

Hab. On *Phragmites longivalvis* STEUD. (*Yoshi*). *Honshû*: Prov. Rikuzen, Nonodake (April 2, 1925, T. ABE, comm. Dr. G. YAMADA, *type*!).

The present fungus is closely related to *Puccinia Traubutii* ROUM. et SACC., from which it is easily distinguished by the teleutospores with their uniformly thickened episporio and with their longer pedicel.

12. *Ravenelia tephrosiicola* (P. HENN.) HIRATSUKA, f. nov. comb.

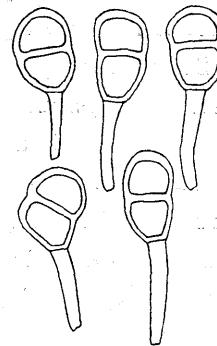


Fig. 1. Teleuto-spores of *Puccinia Polliniæ-imberbis* (S. Ito) Hiratsuka, f. on *Microstegium vimineum* var. *imberbe*.

Syn. *Uredo tephroscopicola* HENNINGS in *Hedwigia*, XLIII, p. 163, 1904. Status uredosporiferi = *Uredo tephroscopicola* HENNINGS.

Soris uredosporiferis amphigenis, sparsis, minutis, atro-brunneis; capitulis teleutosporarum hemisphaericis, ambitu orbicularibus, 80~115 μ diam., castaneo-brunneis, ex sporis 5~7 in omni directione compositis, verruculosis; sporis singulis 18~25 μ diam., cystidis eodem numero quo cellulis marginalibus; pedicello deciduo, brevi, hyalino.

Hab. On *Tephrosia candida* DC. (*cult.*). *Formosa*: Prov. Taichū: Taichū (Dec. 3, 1935 & Nov. 29, 1936, Y. HASHIOKA, type!).

In 1928, W. MC RAE⁽¹⁾ recorded *Uredo tephroscopicola* P. HENN. on *Tephrosia candida* from India.

13. *Triphragmium formosanum* SAWADA

Descript. Cat. Formosan Fung. V, p. 52 & pl. II, figs. 38~40, 1931 (*nomen seminudum*) (HIRATSUKA, f. & HASHIOKA in Bot. Mag. Tokyo XLVIII, p. 236, 1934).

Soris uredosporiferis amphigenis, plerumque hypophyllis, sparsis vel aggregatis, minutis, 0.15~0.5 mm diam., pulverulentis, rufo-aurantiacis; uredosporis subglobosis, obovatis vel ellipsoideis, 17~23 \times 16~20 μ ; episporio tenui, echinulato. Soris teleutosporiferis hypophyllis, sparsis. minutis, rotundatis, pulverulentis, atris; teleutosporis subglobosis vel globoso-trigonis, ad septa leniter constrictis, 3-cellularibus, atro-brunneis, opacis, 26~32 \times 27~31 μ , processibus 11~17 apice 3~6 furcatis usque 16 μ longis et 2~2.5 μ

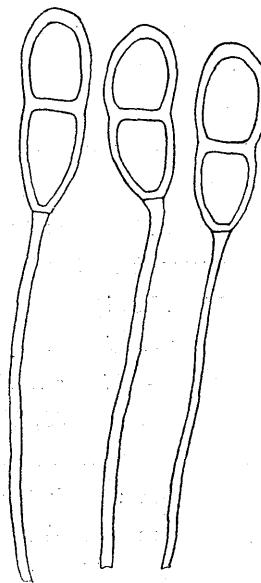


Fig. 2. Teleutospores of *Puccinia Abei* HIRATSUKA, f. on *Phragmites longivalvis*.

⁽¹⁾ Reports of the Imperial Mycologist, in Reports of the Agricultural Research Institute and College, Pusa, XX, 1928; E. J. BUTLER & G. BISBY: The fungi of India, p. 80, 1931.

crassis obsitis; pedicello hyalino, persistenti, usque 42μ longo, $5\sim 7\mu$ crasso.

Hab. On *Kælreuteria formosana* HAYATA (*Taiwan-sendan-bodaijyu*). Formosa: Prov. Taihoku, Taihoku (Oct. 25, 1932; Jan. 8, July 26 & Dec. 9, 1933, Y. HASHIOKA). Prov.

Takao, Kuraru (Jan. 5, 1934, Y. HASHIOKA).

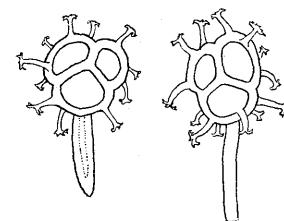


Fig. 3. Teleutospores of *Triphragmium formosanum* SAWADA

14. **Pileolaria Pistaciæ** TAI et WEI in *Kælreuteria formosana*. Sinensia, IV, p. 108 & text-fig. 39, 1933.

Hab. On *Pistacia chinensis* BUNGE (*Ranshinboku*). Formosa: Prov. Takao: Kuraru (Jan. 1, 1922, S. SUZUKI, comm. Mr. Y. HASHIOKA).

The present species is a new addition to the mycological flora of Japan.

15. **Maravalia hyalospora** (SAWADA) DIETEL in ENGLER-PRANTL, *Natürl. Pflanzenfam.* II. Aufl. VI, p. 66, 1928; HIRANE in *Jour. Soc. Tropie Agrie.* VI, p. 683~686 & text-fig. 1 (p. 684), 1934; TAI & WEI in *Sinensia*, IV, p. 107 & text-fig. 38, 1933.

Syn. *Uromyces hyalosporus* SAWADA in *Bot. Mag. Tokyo*, XXVII, p. 19 & text-fig. 1~5, 1913. (FUJIKURO in *Bot. Mag. Tokyo*, XXVIII, p. (391), 1914; *Transact. Nat. Hist. Soc. Formosa*, no. 19, p. 2, 1914; *Jour. Pl. Protect.* VI, p. 522, 1919; HIRATSUKA, f. & HASHIOKA in *Transact. Tottori Soc. Agrie. Sci.* IV, p. 156, 1933; ITÔ in *Jour. Coll. Agrie. Hokkaido Imp. Univ.* XI, p. 200 & pl. VII, fig. 6, 1922; SAWADA, *Descript. Cat. Formosan Fung.* I, p. 353, 1919).

Hab. On *Acacia confusa* MERRILL (*Sôshijyu*). *Loochoo*: Shuri (Jan. 5, 1899, Naoharu HIRATSUKA). Formosa: Prov. Taihoku, Taihoku (May 8, 1932, Y. HASHIOKA); Hokutô (Sept. 9, 1932 Y. HASHIOKA); Mt. Kan-non (Dec. 25, 1933, Y. HASHIOKA). Prov. Taichû: Gojyô (Dec. 27, 1932 Y. HASHIOKA). Prov. Taka, Kôrin (Jan. 7, 1934 Y. HASHIOKA).

(To be continued)